ABSTRACT OF THE DISCLOSURE

An effective method for examining nucleotide sequences of a sample having multiple test sites based on a method using chemiluminescence, which comprises a step in which a group of primer 1 consisting of multiple primer species is added to a solution containing a sample 2 subjected to examination, and simultaneous synthesis of complementary strands is performed at each of the multiple regions containing target nucleotide sequences to be examined; a step in which the DNA probes with specific sequences are designed so that elongation of complementary strands is affected by the presence or absence of mutations in the target nucleotide sequences wherein the same number of such DNA probes and the target sequences is used for complementary strand synthesis, 5-1 and 5-2; a step in which the elongation reaction of complementary strands using the targets or the sequence complementary to the targets as a template and the following reaction where pyrophosphate produced during the elongation reaction is converted to ATP and reacted with chemiluminescent substrates to develop luminescence are performed in the subcells of the reaction vessel that are compartmentalized for each target; wherein a step in which mutations present in the target nucleotide sequences are detected by detecting the luminescence. According to the method, sensitivity is greatly increased by amplification of the amount of pyrophosphate produced

in synthesis of complementary strands without amplifying the copy number of targets.